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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,582	07/15/2003	Jeffrey L. Pfohl	09115.0001-00000	8890

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EXAMINER

YANG, NELSON C

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/620,582	<b>Applicant(s)</b> PFOHL ET AL	
	<b>Examiner</b> Nelson Yang	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-110 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-110 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-89, drawn to a method of generating a varying potential across a membrane, classified in class 435, subclass 173.1.
  - II. Claims 90, 92, 93-110 drawn to an apparatus comprising non-ionic transport means, classified in class 435, subclass 287.1.
  - III. Claim 91, drawn to an apparatus comprising a spinner and a stirrer mechanism, classified in class 435, subclass 283.1.
2. The inventions are distinct, each from the other because of the following reasons:
3. Inventions I and II, III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the products of groups II and III can be used for electrochemical reactions or electrophoresis.
4. Inventions II and III are directed to related products. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the product of group II requires a fluid chamber and a

Art Unit: 1641

non-ionic transport means for moving a suspended structure through a electric field, which are not required by the product of group III, while the product of group III requires a first, second, and third wells, as well as a spinner and a stirrer mechanism, which are not required by the product of group II.

5. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

6. This application contains claims directed to the following patentably distinct species: DC electric field (drawn to claims 2, 6, 22, 26, 59), varying electric field (drawn to claims 3, 8, 23, 28, 61), and AC electric field (drawn to claims 8, 27, 60), constant electric field (drawn to claims 9, 29, 62), pulsed electric field (drawn to claims 9, 29, 62), stepped electric field (drawn to claims 9, 29, 62), discontinuous electric field (drawn to claims 9, 29, 62), continuous waveform electric field (drawn to claims 9, 29, 62). The species are independent or distinct because they refer to different electric fields.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, electric field (drawn to claims 1, 4, 5, 21, 24, 25, 57) is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Art Unit: 1641

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

7. This application contains claims directed to the following patentably distinct species: cell (drawn to claims 10, 30, 63), intracellular organelle (drawn to claims 10, 30, 63), viral envelope (drawn to claims 10, 30, 63), vesicle (drawn to claims 10, 30, 63), animal cell (drawn to claims 10-11, 30-31, 63-64), insect cell (drawn to claims 10-11, 30-31, 63-64), plant cell (drawn to claims 10-11, 30-31, 63-64), bacterial cell (drawn to claims 10-11, 30-31, 63-64), CHO-K1 cell (drawn to claims 10-12, 30-32, 63-65), RIN cell (drawn to claims 10-12, 30-32, 63-65), HEK-293 cell (drawn to claims 10-12, 30-32, 63-65), mitochondria (drawn to claims 10, 13, 30, 33, 63, 66), lysosome (drawn to claims 10, 13, 30, 33), nuclear envelope (drawn to claims 10, 13, 30, 33, 63, 66), endoplasmic reticulum (drawn to claims 10, 13, 30, 33, 63, 66), Golgi apparatus (drawn to claims 10, 13, 30, 33, 63, 66), chloroplast (drawn to claims 10, 13, 30, 33, 63, 66). The species are independent or distinct because they refer to different cells or cell components that would require different means of detection.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, closed membrane structure (drawn to claims 1, 4, 5, 21, 24, 25, 57) is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

8. This application contains claims directed to the following patentably distinct species: mechanical agitation, sonication, differential pressure, gradients, and gravitation (all drawn to claims 38, 71). The species are independent or distinct because they refer to different means of transport and would require different structural elements to achieve.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, non-ionic transport (drawn to claims 1, 4, 5, 21, 24, 25, 57) is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Art Unit: 1641

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

9. This application contains claims directed to the following patentably distinct species: endogenous probe (drawn to claims 41, 74), exogenous probe (drawn to claims 41, 74), combination of a endogenous and exogenous probe (drawn to claims 41, 74), ion probe (drawn to claims 45, 78), membrane potential probe (drawn to claims 45, 78), probe sensitive to phosphorylation (drawn to claims 45, 78), probe sensitive to enzymatic activity (drawn to claims 45, 78), probe sensitive to translocation (drawn to claims 45, 78), sodium ion probes (drawn to claims 45, 46, 78, 79), potassium ion probes (drawn to claims 45, 46, 78, 79), calcium ion probes (drawn to claims 45, 46, 78, 79), chloride ion probes (drawn to claims 45, 46, 78, 79), thallium ion probes (drawn to claims 45, 46, 78, 79), rubidium ion probes (drawn to claims 45, 46, 78, 79), lithium ion probes (drawn to claims 45, 46, 78, 79), hydrogen ion probes (drawn to claims 45, 46, 78, 79), bicarbonate ion probes (drawn to claims 45, 46, 78, 79), nitrate ion probes (drawn to claims 45, 46, 78, 79), oxonol derivative dye (drawn to claims 45, 47, 78, 80), rhodamine derivative dye (drawn to claims 45, 47, 78, 80), styryl derivative dye (drawn to claims 45, 47, 78, 80), fluorescence resonance energy transfer probe (drawn to claims 45, 47, 78, 80), GFP-type mutant (drawn to claims 45, 47, 78, 80), photoprotein (drawn to claims 45, 47, 78, 80). The species are independent or distinct because they are different types of probes that detect different species.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, probe (drawn to claims 1, 4, 5, 21, 24, 25, 57) is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

10. This application contains claims directed to the following patentably distinct species: protein located on the exterior expanse of the closed membrane structure (drawn to claim 49, 82), protein located on the interior expanse of the closed membrane structure (drawn to claim 49, 82), transmembrane protein (drawn to claim 49, 82), embedded protein (drawn to claim 49, 82), single protein (drawn to claim 50, 83), collection of proteins (drawn to claim 50, 83), protein complex (drawn to claim 50, 51, 83, 84), endogenously expressed protein (drawn to claim 52, 85), exogenously expressed protein (drawn to claim 52, 85), ion channel (drawn to claim 53, 86), ion transporter (drawn to claim 53, 86), receptor (drawn to claim 53, 86), GPCR/7TM (drawn to claim 53, 86), kinase (drawn to claim 53, 86), phosphatase (drawn to claim 53, 86), protease (drawn to claim 53, 86), sodium ion channel (drawn to claim 53, 54, 86, 87), potassium



Art Unit: 1641

ion channel (drawn to claim 53, 54, 86, 87), calcium ion channel (drawn to claim 53, 54, 86, 87), chloride ion channel (drawn to claim 53, 54, 86, 87), voltage-gated ion channel (drawn to claim 53, 55, 86, 88), ligand gated ion channel (drawn to claim 53, 55, 86, 88), mechanically gated ion channel (drawn to claim 53, 55, 86, 88), direct-ATP ion transporter (drawn to claim 53, 56, 86, 89), indirect-ATP ion transporter (drawn to claim 53, 56, 86, 89). The species are independent or distinct because they refer to different proteins with different properties and functions.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, protein (drawn to claims 1, 4, 5, 21, 24, 25, 57) is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

11. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend**

Art Unit: 1641

**from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier.

Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See “Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b),” 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

12. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

Art Unit: 1641

13. The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1641

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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